



THE
ONTARIO WATER RESOURCES
COMMISSION
WATER POLLUTION SURVEY
TOWNSHIP OF HAY
including
VILLAGE OF HENSALL
and
VILLAGE OF ZURICH
COUNTY OF HURON

1965

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VILLAGE OF HENSALL AND VILLAGE OF
ZURICH - 1965
COUNTY OF HURON

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Report on a water pollution
survey of the township of Hay
including the village of Hensall
and the village of Zurich, county

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R E P O R T

ON A

WATER POLLUTION SURVEY

OF

THE TOWNSHIP OF HAY

including

THE VILLAGE OF HENSALL

and

THE VILLAGE OF ZURICH

COUNTY OF HURON

by

APRIL 1965

ONTARIO WATER RESOURCES COMMISSION

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R E P O R T

ONTARIO WATER RESOURCES COMMISSION

I INTRODUCTION

A water pollution survey of the Township of Hay and the villages of Hensall and Zurich was conducted on November 25, 1964. The Ontario Water Resources Commission carries out such surveys routinely, and upon request in an effort to locate and evaluate any existing sources of pollution. Where sources of pollution are found, corrective action is requested.

This survey involved interviews with local officials and the sampling of all known or suspected sources of pollution. The assistance of the staff of the Huron County Health Unit in the completion of this work is herein gratefully acknowledged.

The survey was undertaken in mild 40°F temperature without precipitation. Heavy ice conditions on the watercourses at the time of the survey precluded the sampling of streams in the area.

II GENERAL

The Township of Hay has a resident population of 1,887 with an economy based largely on agricultural land use, and in recent years, the extensive development of cottage properties in the Grand Bend area at Lake Huron.

The Villages of Hensall and Zurich, with populations of 955 and 720 respectively, serve as retail centres for the surrounding area. A moderate amount of light industry is located in the Village of Hensall.

Other centres of population include the settlements of St. Joseph, Blake, Drysdale and Kippen. The Police Village of Dashwood, a portion of which is situated at the south limits of the township was included in a similar study of the adjacent Township of Stephen.

The township and the two villages are located in the south west portion of the County of Huron in an area bordered on the south by Highway #83 and on the west by Lake Huron. The upper reaches of the Ausable River pass through the township in a north to south direction. A number of small ravines at the Lake Huron shoreline convey surface run-off but have little dry weather flow except for one which originates east of the Village of Zurich.

III WATER USES

1. Municipal Water Supplies

There are no municipal water supply systems in the township proper. There are however, municipal systems in both villages and the details of these are as follows:

Village of Hensall

Source	-	Deep Well
Storage	-	64,000 gallon reservoir
Treatment	-	None
Number of Services	-	Approximately 300
Daily Pumpage	-	90,000 gallons (estimated)
Pump Capacity	-	200 IGM
Water Quality	-	Chemically satisfactory
	-	Bacteriologically - 1964 sample results indicate periodic contamination
Recommended Improvements	-	OWRC reports recommend metering of the pumps and additional sampling

Village of Zurich

Source	-	2 deep wells
Storage	-	65,000 gallon reservoir
Treatment	-	None (standby chlorination facilities are available)
Number of Services	-	Approximately 300
Daily Pumpage	-	Average 50,000 gallons
Pump Capacity	-	Not known
Water Quality	-	Chemically and bacteriologically satisfactory

2. Private Water Systems

The Commission has records on and makes regular inspections of three private water supply systems in the township. The details of these, all located in the Grand Bend area, are as follows:

Kleinstiver Water Works

Operator	-	L. Kleinstiver, Box 86, Dashwood
Source	-	Lake Huron
Treatment	-	Filtration and chlorination
Number of Services	-	80
Pump Capacity	-	2400 GPH
Water Quality	-	Chemically and bacteriologically satisfactory in 1964.

Bayview Farms Water Works

Operator	-	G.A. Smith, R.R.#2, Zurich
Source	-	Drilled well
Storage	-	9,500 gallon reservoir
Treatment	-	None
Number of Services	-	12
Pump Capacity	-	300 GPH
Water Quality	-	Chemically and bacteriologically satisfactory in 1964.

Turnbull Water Works

Operator	-	N. Turnbull, Box 25, Grand Bend
Source	-	3 drilled wells
Treatment	-	None
Number of Services	-	51 (2 separate systems)
Pump Capacity	-	Not known
Water Quality	-	Chemically and bacteriologically satisfactory in 1964

3. Recreational Uses

Portions of the Ausable River and its tributary, Black Creek, are used for sport fishing and occasional swimming. The Lake Huron shoreline affords excellent bathing conditions with 11 miles of sandy beach.

4. Agricultural Use

The use of watercourses within the township for cattle watering is fairly extensive. Such use makes the control of pollution extremely important.

IV WATER POLLUTION

1. Sanitary Waste Disposal

(a) Existing Conditions

There are no municipal sanitary sewage works in the township or in either village. As such, the disposal of domestic and industrial

wastes is generally left to the individual property owner. In most cases this consists of septic tank disposal systems.

Both of the villages included in this survey have storm sewer systems for the removal of surface drainage. Pollution surveys conducted by the Commission in 1962 and the findings of this report indicate that domestic and industrial wastes are discharged to these storm sewers in considerable volume. A brief outline of the conditions found is as follows:

Village of Hensall

The storm sewer system terminates in two 18 inch galvanized steel pipes just west of the corporate limits. The combined volume of wastes (estimated at 1100 GPH at the time of the survey) enters a ditch which empties into Black Creek. Samples of the effluent from these sewers were submitted to the OWRC laboratory for analysis and the presence of domestic sewage was confirmed. (See Table I).

Village of Zurich

The Zurich storm sewer system terminates in the east end of the village with the wastes entering a minor unnamed watercourse which meanders south and west to Lake Huron. Here again, laboratory analyses of samples of the waste discharges indicate the presence of domestic sewage and/or industrial wastes. For further discussion of the laboratory analyses, see later section.

General

The settlements of St. Joseph, Blake, Drysdale and Kippen were examined during the survey. There was no evidence of pollution from domestic or industrial sources at any of these locations.

(b) Proposed Sewage Works

In reports dated 1962, the OWRC recommended that officials of the villages of Hensall and Zurich take steps to prevent the discharge of polluting wastes to the storm sewer systems. The findings of this survey indicate that such action has not been taken. Further, on the basis of interviews with officials in the municipalities, it would appear that there are, at present, no plans for the construction of sanitary sewage works in any of the localities covered during the survey.

2. Industrial Waste Disposal

Township of Hay

Merner's Slaughter-House

This is a small slaughter-house located just north of Dashwood. The plant wastes are disposed of through a septic tank and tile bed and there has been no evidence to date of pollution of a small watercourse immediately south of the plant.

Village of Hensall

There are six major industrial operations in the village. The details of these and the means of waste disposal employed by each are as follows:

Cook Bros.

W. Thompson & Sons

E. L. Mickle Ltd.

All three firms are engaged in processing dried white beans. The process is basically a dry cleaning operation and as such presents no significant waste disposal problem.

Hensall Coach Works

This firm manufactures commercial trailers. Since the production largely entails metal fabrication there are no industrial wastes of a deleterious nature.

Al's Slaughter-House

The wastes generated by this operation are directed to a small lagoon, inspected routinely by the Commission. Inspection reports during the past several years indicate that pollution of a small creek may have resulted from wastes from the lagoon. Regular inspections will be continued to insure that the plant wastes receive adequate treatment.

Hurondale Dairy

A small local dairy, this firm processes an average of 3600 pounds of milk per day. All wastewaters are discharged to the municipal storm sewer system.

Village of Zurich

From an industrial waste standpoint, the following are significant:

Youngblut Slaughter-House

Diechert Slaughter-House

Both of these establishments employ septic tanks and disposal beds for plant wastes. Regular inspections by Commission staff have found that these systems operate satisfactorily.

3. Refuse Disposal

There are three refuse disposal sites located in the township. The details of these are as follows:

Village of Zurich Disposal Area

The site is located at Lot 15 Concession XII, southwest of the village. The disposal area is on the banks of the same small creek which receives the effluent from the village storm sewer system. Although there was no evidence of waste materials entering the water-course, care must be exercised to insure that dumping is restricted to those areas well removed from the creek.

Township of Hay Disposal Area

The township maintains a disposal site located at Lot 15 Concession VII in an abandoned sand pit. There was no evidence of contamination of watercourses in the vicinity, nor did there appear to be any danger of pollution of ground water supplies.

Town of Exeter Disposal Area

This site is located at Lot 7 Concession IV just north of Hwy.#83. The property is well removed from any watercourse.

Village of Hensall

Refuse from the village is deposited at a site located in and operated by the adjacent Township of Usborne.

4. Discussion of Sample Analyses

Samples of the effluent from the storm drains at Hensall and Zurich were submitted to the OWRC laboratory for analysis. The results of the analyses are shown in Table I and an interpretation of same is included in the appendix.

Each sample exceeded the Commission's objectives for waste discharges of 15 ppm in respect to BOD and suspended solids. The excessively high count of coliform organisms in all samples reflects the presence of domestic sewage.

The phenol concentration of 400 ppb in sample #4 exceeds the recommended limit of 20 ppb and is usually indicative of gasoline or oil wastes.

V SUMMARY AND CONCLUSIONS

A water pollution survey of the Township of Hay and the villages of Hensall and Zurich was carried out on November 25, 1964.

As reported by the Commission in 1962, the villages of Hensall and Zurich are major sources of pollution by domestic and industrial wastes. There does not appear to have been any consideration given by either municipality to the development of proper methods of waste disposal. The only other potential source of pollution found was the refuse disposal site operated by the Village of Zurich.

Finally, the municipal and private water supply systems in the township and in the two villages are generally satisfactory.

VI RECOMMENDATIONS

It is recommended that

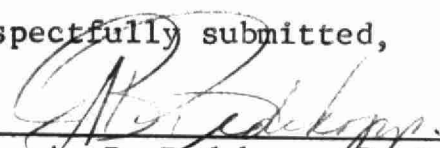
1. Officials of the Village of Hensall be advised to secure a consulting engineer's report on municipal sewage works.
2. Officials of the Village of Zurich similarly be advised to retain the services of a consulting engineer to prepare a report on municipal sewage works.
3. Care be taken in the operation of the refuse disposal area, maintained by the Village of Zurich, to insure that contamination of the nearby creek does not occur.

Prepared by:

C. Letman, C.S.I.(c)

All of which is respectfully submitted,

District Engineer:


A. B. Redekopp, P. Eng.

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Approved by:

K. H. Sharpe, Director.

TABLE I

Sample Pt. No.	Location	Date	5-Day	Solids		Phenols	Coliforms per 100 ml.	Estimated Flow GPH
			BOD	Total	Susp.			
1	18" Galvanized storm sewer- west of Hensall	Nov.25/64	96	848	256	-	8,000,000	300
2	18" Galvanized storm sewer- west of Hensall	" " "	47	684	114	-	6,000,000	800
3.	Storm sewer outlet-east of Zurich (North)	" " "	42	844	34	-	24,000,000	Submerged
4.	Storm sewer outlet-east of Zurich (South)		1300	744	108	400	15,000,000	300



C O U N T Y O F H U R O N

T W P . O F S T A N L E Y



LEGEND

③ - SAMPLING POINT

----- DITCH

ONTARIO WATER RESOURCES COMMISSION

TOWNSHIP OF HAY
WATER POLLUTION SURVEY

SCALE : 1 1/2 0 MILE

DRAWN BY: L.L.B.

DATE: MAR., 1965

CHECKED BY:

DRAWING No: 65-45